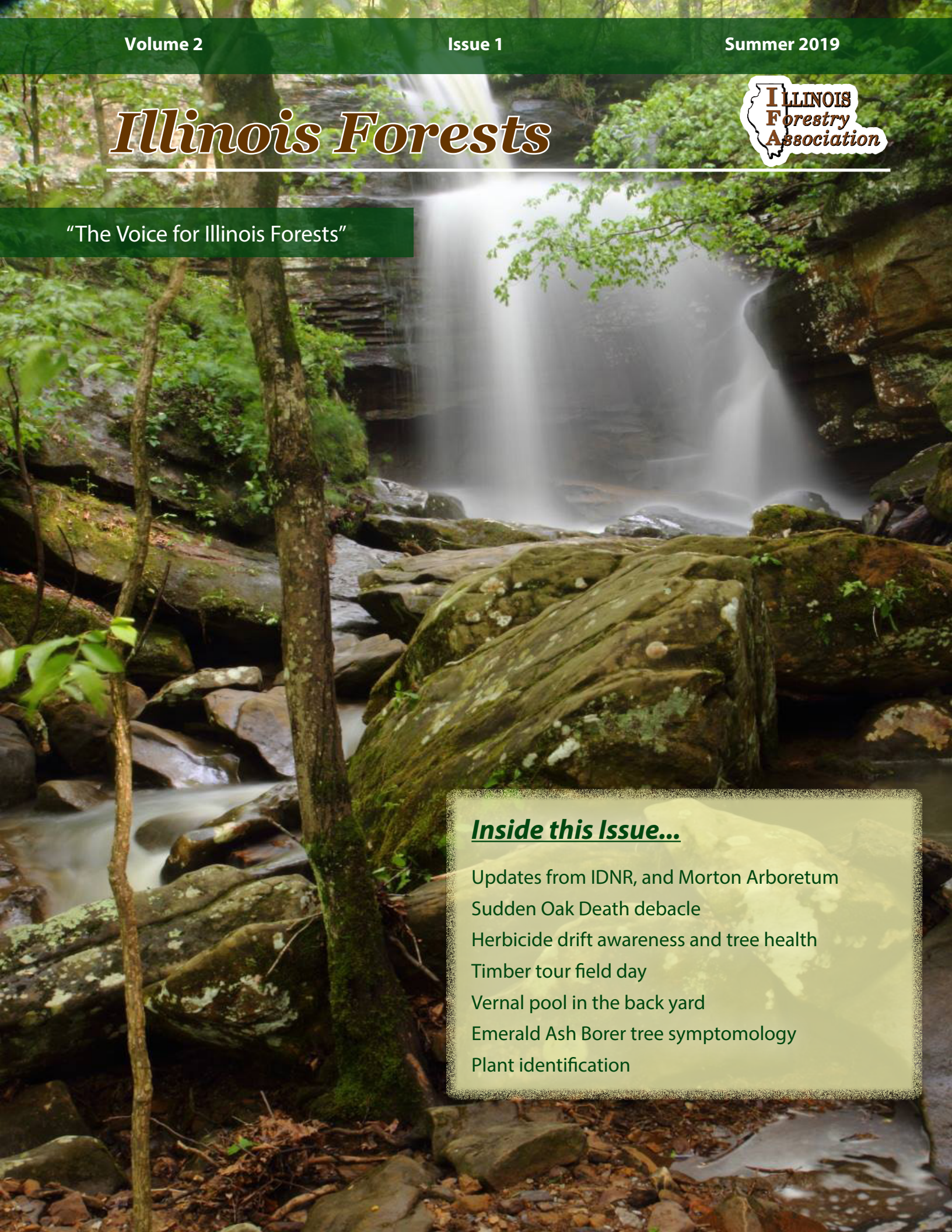
Volume 2 Issue 1 Summer 2019

Illinois Forests

Illinois Forestry Association

"The Voice for Illinois Forests"



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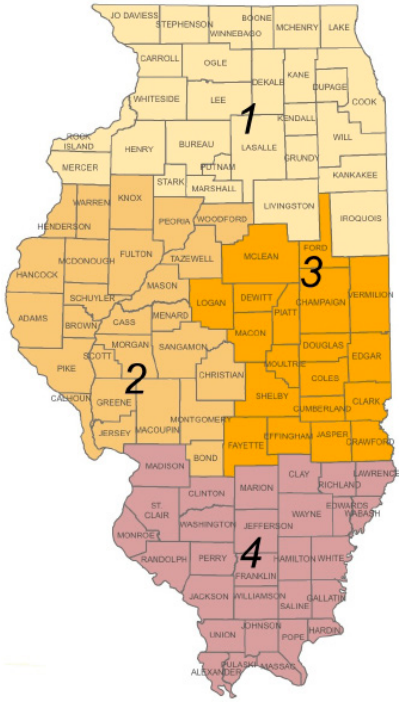

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Our Mission...

"to act on issues that impact rural and community forests and to promote forestry in Illinois."

Our Goals...

- Promote forest management and help landowners manage their forests
- Educate members and the general public about rural and community forestry
- Advocate for favorable legislation and policies to benefit/protect landowners managing their forests
- Understand and engage our members, and increase IFA membership
- Govern the IFA efficiently and effectively to better serve our charitable mission

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A Message from the Illinois Forestry Association

If we do not fight for Illinois forests, who will? We all have a responsibility to preserve the land for future generations so that they can walk through the woods and see what we see today. With this in mind, the Illinois Forestry Association was started nearly 15 years ago. IFA brings together a diverse membership of forest landowners, farmers, forestry professionals, arborists, and other concerned citizens. IFA is dedicated to promoting forests and forestry throughout Illinois.

The forests of Illinois are used in so many ways to meet specific individual needs, but our relationship with the natural areas of Illinois must be mutualistic. Maybe you're an avid hunter, maybe the timber in your woodlot is an investment for retirement, maybe nothing sounds better on a Saturday night than setting out a tent and relaxing by a warm campfire, or maybe you just find peace in taking a walk through the woods. No matter how you use and experience the woods, that activity is synergistic with responsible land management.

We believe that the forests of Illinois can be healthy and productive. They can provide wildlife value, timber, and enjoyment. IFA works hard to build better connections in forestry. We connect landowners and IFA members through our events, publications, and networking opportunities. IFA is also dedicated to growing forestry in Illinois and standing as the voice of Illinois forests by acting on issues that impact Illinois' rural and community forests.

We hope you enjoy this issue of Illinois Forests, the quarterly newsletter for the Illinois Forestry Association. We want to hear from our members about what they like (and don't like) about IFA, what type of information they want included in our newsletter, and how we can best serve our members and continue to promote forests and forestry throughout Illinois. Please feel free to contact the leadership of the Illinois Forestry Association by emailing us at ilforestry@gmail.com or calling us at 618-695-3383. Better yet, please consider joining us at the Annual Conference at Principia College this September!

IFA President Joe Fitzsimmons

State Forester Update Summer 2019

By Tom Gargrave acting State Forester

It is the mission of the Illinois Division of Forest Resources to protect, perpetuate, restore, conserve, and manage the forest and related resources of Illinois, public and private, rural and urban; and to ensure for future generations the greatest economic, scientific, and social benefits that can only be provided through a forest ecological system.

Illinois Forests are the hinge pin of where ecological diversity and habitat management/preservation meet. Vital forest cover types such as oak hickory are in decline and are of great concern. These stands provide the necessary habitat for over 75% of our states wildlife populations. The Division of Forest Resources continues to strive to meet the mission of the Department and seeks to better the public and private lands of Illinois.

In 2019 the Division of Forestry started out with some changes. In late 2018 the State Forester Tom Wilson retired, Tom also served as our Fire Program Manager and managed a few counties as a District Forester. Additionally, David Allen our District Forester in Dixon Springs retired and Mark Brown in Sparta will be leaving at the end of June. All three of these guys are hard working, first rate Foresters, of excellent character, and outstanding public servants. They will be missed.

Tom and Dave are currently back with DNR on contract to help fill in the backlog and train new foresters. No positions have been filled to date. We hope to get Mark back as on contract as well.

Our Urban Program Manager, Reinee Hildebrandt also retired last fall. We have her placement Mike Brunk, city of Urbana Forester, starting July 1. Mike brings 30 years of urban forestry experience to the Division and we are extremely fortunate to have him.

The Forestry Development Act stewardship program is running smoothly. District foresters are operating off a healthy backlog so we ask for your continued patience. We anticipate no changes in the FDA laws and look forward to continued success with our private land management assistance. As DNR staffing challenges continue we ask that you consider using a consulting forester for both new and renewed FDA plans.

Division successes last year include:

Hosting of the Northeastern Area Forest Fire Supervisors Meeting at Pere Marquette Lodge. This was the first time in recent history Illinois hosted the annual meeting.

The Illinois Forestry Development Council hosted an excellent "Summit on Forestry". The summit provided a venue for forestry professionals to create the next steps as lined out in the Forest Action Plan. We are excited to see if these steps come to fruition.

Forestry conducted several timber sales on State Forests last year. Each harvest has a follow up timber improvement plan and utilizes some of the proceeds to contract the work. The Division plans to conduct more sustainable harvests with follow up TSI on state properties.

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

The Division Continues to collaborate well with our esteemed partners (USFS, USFW, USDA, BLM, etc) in many projects state wide projects including "Let the Sunshine in", and "Fuel Reduction and Management Grants", CREP easements, and many others.

Our state nursery in Mason County produced, approximately 800,000 tree seedlings, 2000 potted trees and plants, over 500 pounds of pollinator seed mix, and over 1000 pounds of pure wildflower seed. Mason nursery is the key producer for the Illinois Monarch Project.

The Illinois Interagency Fire crew was deployed to Idaho and Utah to engage in two separate large fires. The Gassy and Dollar Ridge fires were both level 3 fires and the Illinois's crew played an integral role in conducting several tactical operations. These included air attack, large burn out, and line holding.

The Division of Forestry will do our best to step up as needed protecting, managing, and restoring the fine forest resources of this state. We remain passionate for all natural resources and will continue to honor the privilege of public service. Have a great year.

Introduction of IFA Coordinator

by Zach DeVillez
Photos by Chris Evans

I believe that one of the most important aspects of the Illinois Forestry Association is connection. Here we can connect many people of different backgrounds to share ideas, to learn, and to grow as land managers so that we can preserve Illinois forests and natural areas for future generations. This is precisely the reason I am excited to begin working for the Illinois Forestry Association. My name is Zach DeVillez and I will be serving as the Coordinator for the IFA. I am very excited to devote myself to this association and look forward to growing and learning with all of you. I will be giving much of my time to the IFA, but with the rest of my time, I will be conducting research for Extension Forestry at the Dixon Springs Agriculture Center.

Summary of Research:

As many of you have heard and seen, Emerald Ash Borer is making its way through the state. This invasive Asian beetle is expected to extirpate 99% of green ash and 95% of white ash. For a long time, ash trees have been a major component in our forest communities and our back yards, but we may not be able to enjoy the abundant presence of this tree for much longer. Our research will be looking at ash trees as potential hazards in high use areas such as campsites and parking areas. We will be setting Lindgren Funnel Traps across 40-50 locations across Southern Illinois in hopes that we can identify the presence of Emerald Ash Borer. We will then monitor the dieback of individual infested trees and track the spread throughout the southern portion of our state. Ash trees can become very hazardous because the structural integrity of the wood degrades quickly when afflicted by EAB. This makes ash trees next to homes and busier areas hazardous due to the potential of falling limbs or entire trees. Below you will be able to see images that can help you to identify ash trees near you and identify the symptoms of an ash tree afflicted by EAB.

Figure 1: D-shaped exit holes

Figure 2: S-shaped larval galleries

Figure 3: Bark splitting

Figure 4: Dead ash trees in a mixed hardwood canopy

Figure 5: Lindgren funnel trap used to trap emerald ash borer.

Figure 6: Emerald ash borer beetle
Photo credit: Leah Bauer

Symptoms of ash tree decline due to Emerald Ash Borer:

- ***Bleaching of bark***
- ***D-shaped exit holes***
- ***S-shaped larval galleries***
- ***Bark splitting***
- ***Crown thinning***
- ***Branch dieback***
- ***Rapid decline of tree health***

IFA hosts Timber Tour in Southern Illinois

Text and photo by Chris Evans

This spring, the Illinois Forestry Association held a Timber Tour in southern Illinois. This event provided IFA members an opportunity to see a forest that has a timber harvest in progress and talk to both the landowner and timber buyer.

The first try at this timber tour didn't work as heavy rains and flood warnings forced us to reschedule for a couple weeks later. When time came for the second try, again we had rain in the forecast and wet soils. Luckily there was a break in the weather long enough for us to sneak in the tour. Despite the muddy conditions and light drizzle, a great crowd showed up to learn about the timber harvest process. The tour was held on the land of IFA president Joe Fitzsimmons. Landon Satterfield, IFA Vice President and Forester for Altenburg Hardwood Company, lead the tour of this active timber harvest.

The tour started at the log yard where cut timber was stacked, cut to length and loaded for transport. Here we discussed log grading, scaling, differences in quality among grades of logs and different species, BMPs for rehabilitating post-harvest, and the process of selling timber.

After the log yard, the tour moved into the woods where Landon explained how foresters mark timber for harvest and decide which trees to take and which to leave. Much of this discussion was centered on how the genetics and quality of a forest can be improved through timber harvest and how forest management can lead to healthier forests and a more productive timber program. Also discussed was tree regeneration, follow-up management, skid roads and water ladders, and invasive species.

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Find us.

We hope to set up additional timber tours in other areas of the state soon. Keep an eye out for event emails from IFA about our upcoming field tours and other events.

Below: Landon Satterfield starts the timber tour by describing the timber harvest process underway and the equipment used.

Ramorum Blight Confirmed in Illinois:

by: Lindsay Darling, GIS Analyst, Chicago Region Trees Initiative

In the spring and summer of 2019 the pathogen that causes sudden oak death (SOD) (*Phytophthora ramorum*) was detected in nursery stock in Indiana and Illinois. Rhododendrons that were being sold at Walmart, HyVee, and Rural King stores across several counties were infected by the disease. The plants in both states came from the same source, and shipping records show that the plants have been shipped to 18 states in total. The infected plants that were detected at retailers have been quarantined, but it is likely that additional infected plants have been sold and are in the landscape. If P. ramorum spreads to oaks it will be devastating for natural areas and for urban trees alike. Oaks are the most abundant tree genus in many of the forests in Illinois, and are particularly important for wildlife. As this introduction may not be contained, and future introductions of the disease through nursery stock are likely to occur (Cave et al. 2008), it is imperative that arborists and the broader public are able to identify the disease so it can be detected, contained and reported. This article will outline what P. ramorum is, its history, how it is transmitted, and how it can be recognized and stopped.

Even the name "Phytophthora" is ominous. It means plant destroyer in Greek. It's a type of water mold (oomycete), which have characteristics of fungi (it spreads through hyphae and creates spores), plants (the cell walls are made of cellulose), and animals (it has flagella that allow it to swim through water). There are many species of Phytophthora, including P. infestans which caused the potato blight that led to the Great Irish Famine, and P. sojae, which is an extremely destructive disease in soybeans. P. ramorum can disperse through soil, wood, or water. Spores form on infected leaves and can be dispersed by rain or wind. Flagella allow Phytopthora species to swim through water in wet conditions (Grünwald et al. 2012), giving it a farther range of transmission than many other plant diseases.

P. ramorum was first described in Germany and the Netherlands in the late 1990s, where it was observed as a blight of rhododendron and viburnum (Werres et al. 2001). Sudden oak death was detected in the central coast of California around the same time, but it wasn't until 2000 when researchers isolated the pathogen and discovered that it was the same disease that had infected the ornamental plants in Europe (Davidson et al. 2003).

List of Illinois Oaks in the Red Oak Family

Northern Red Oak (*Quercus rubra)*

Scarlett Oak (*Quercus coccinea*)

Southern Red Oak (*Quercus falcata*)

Northern Pin Oak (*Quercus ellipsoidalis*)

Shingle Oak (*Quercus imbricaria*)

Blackjack Oak (*Quercus marilandica)*

Cherrybark Oak (*Quercus pagoda*)

Pin Oak (*Quercus palustris*)

Willow Oak (*Quercus phellos*)

Shumard Oak (*Quercus shumardii*)

Black Oak (*Quercus velutina)*

Nuttall Oak (*Quercus texana)*

P. ramorum is challenging to contain because it can infect plants across a large taxonomic range, including rhododendrons, pieris, azaleas, periwinkle, and lilac (Cave et al. 2008). With most of these plants the disease affects the leaves or twigs, causing browning, twig canker, and dieback. In ornamental species it is commonly known as ramorum blight, and it is rarely fatal. However, as the pathogen can travel through both soil and water, spread into the broader environment and to native species is a concern.

As the name "sudden oak death" suggests, P. ramorum affects oaks quite differently than the other carrier species. P. ramorum infects the phloem in oaks, causing bleeding cankers. It can kill an individual in just a few seasons after infection (Grünwald et al. 2012). Many oaks do not show infection in their leaves; the red drops that weep from the cankers are the most clear way to diagnose SOD. When the bark is removed on an infected individual, dark lines and spots are evident in the affected area. Sudden oak death is incurable, at this point, once detected. Not all oaks are susceptible; only oaks in the red oak group.

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Ramorum Blight continued...

It would be nearly impossible to contain SOD if it were released into natural areas. Instead, prevention is the best way to protect oaks. This is especially important at the urban/natural boundaries, as SOD is most likely to be introduced by ornamental species (Cave et al. 2008). Arborists should learn the host plants and how to identify the symptoms of ramorum blight in ornamentals.

For more information please contact:

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• Tricia Bethke, Illinois Forest Pest Outreach Coordinator, The Morton Arboretum (630) 719-7953, tbethke@mortonarb.org

Figure 1: Ramorum blight on viburnum (left) and pieris (right). Image credit: Janna Beckerman, Purdue University.

Figure 2: Symptoms of SOD. Characteristic red oozing from cankers (left). When the bark is removed dark splotches are revealed (right). Note that the wood in this oak species is red, and that color is not indicative of SOD.

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Forest Health Update on Abiotic Issues Affecting Our Forest Resources

By Fredrick Miller
IDNR Forest Health Specialist
And
Senior Scientist – Entomology, The Morton Arboretum

It has been a challenging growing season to say the least. May was the 3rd wettest on record just behind May, 2018. It reminds me a lot of the historic 1993 flood. We have had extensive flooding and saturated soils throughout most of the state, row crop planting has been significantly delayed, and herbicide applications are in our future. What do all of these events have to do with trees? In this update, I will discuss the impact these events have on tree health, how to properly diagnose possible tree problems, and suggested plant health care (PHC) practices to help our forest resources cope and recover from adverse conditions.

TREES AND FLOODING

So how does flooding and saturated soils affect tree health? First, the time of year that flooding occurs is an important factor in how trees respond and their long term health. Similar to the 1993 flood, this year's flooding began in April and appears to be continuing through early to mid-summer. Flooding in spring and early summer can have a much greater impact on trees because this is when trees are coming out of dormancy, leaf out is occurring and metabolic activity is kicking into high gear. Oxygen, which is needed for plant respiration above and below ground, is in high demand during this time. Also, floodwaters are relatively warmer compared to winter and very early spring.

Warmer water cannot carry as much oxygen compared to colder water. If tree roots are situated in water-logged or saturated soils for extended periods of time, root respiration is greatly diminished. If soils continue to stay saturated with very little oxygen available, roots will begin to enter into an anaerobic condition ("oxygen deprived") and begin to rot and decay. All the time this is going on, the above ground parts of the tree are trying to conduct photosynthesis, undergoing transpiration, and trying to grow. With the root system damaged or compromised, it is very difficult for trees to conduct these vital functions. REMEMBER, the root system is critical to tree health. If the roots are not able to function properly, the entire tree suffers. If flooding continues long enough, the trees may begin to decline and eventually die. We saw this in 1993 with flood intolerant species such as lindens, sugar maples, upland oak species, many of our common fruit trees and conifers. Bottomland species such as hackberry, silver maple, willow, cottonwood, ash, and elms fared much better and eventually recovered.

Figure 1: flooded mixed hardwood forest near Union County

Figure 2: Flooding of a gravel road and surrounding forest near Union County IL.

Second, is the duration of the flood. Most tree species can tolerate short flood events of a few days or even a week or so. We see this quite often in spring, but when flooding and water-logged soils drag on for weeks and months, then we may pass the point of no return.

Third, the speed of the current of the water can also damage trees by "scouring" the soil from around the trunk, bombarding the trunk with debris, piling up of debris behind tree trunks, and harmful chemicals that may be present in the water. Once the waters have receded, siltation can be detrimental by adding "fill" around the tree and smothering roots.

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Unfortunately, there is not much we can do about excessive precipitation and flooding. If you have individual landscape trees, diverting of excess water away from the tree may help, providing mulch around the tree to increase infiltration, and planting flood-tolerant trees in flood prone areas may lessen the impact. Hopefully, as the summer progresses, precipitation patterns will moderate, but like the 2012 drought, we will probably see lasting effects for months and even years to come.

HERBICIDE DAMAGE ON WOODY PLANTS

As you may be well aware, there has been plenty of dialogue centering on herbicide damage to woody landscape plants, vegetable gardens, orchards, tree nurseries and plantations. In this section, I will provide some general guidelines for distinguishing herbicide damage from plant maladies caused by living insect pests and pathogens, explain why herbicide damage is harmful to plants, and provide suggestions for helping affected plant(s) recover.

When diagnosing plant problems we need to pay attention to patterns, patterns, patterns. Ask yourself how widespread is the damage (i.e. many plants involved of a single species or a wide range of plants), what parts of the plant are affected (i.e. old or new growth), is there a clear "pattern" to the damage (i.e. affected versus unaffected portions), how soon did the symptoms appear (i.e. sudden or over a long period of days, months, years), what aspect (N,S,E,W) of the plant canopy is impacted, and are there common active pests and/or diseases present?

Generally, abiotic factors such as chemical damage (pesticide drift, pollutants, de-icing salts) will result in a fairly clear pattern. Usually only the new growth is affected, plants downwind from prevailing winds are more susceptible, and damage tends to be observed on a wide variety of plants. In contrast, plant damage caused by biotic factors (i.e. insects and pathogens) is usually random, affects a single species or a group of related plants, and will vary with the season. Of course, there are always exceptions (i.e. Japanese beetle) which feeds on over 200 different hosts.

Figure 3: Leaf wilt in response to herbicide drift.

Timing is another major factor. Insects and diseases usually build up gradually and usually occur around the same time from year to year. Herbicide damage can occur any time an application occurs and when environmental factors are favorable. Growth regulator herbicides are prone to drifting and injury symptoms show up as twisted leaves, downward cupping on leaves, narrow, and strap-like leaves on new growth. Root uptake of dicamba may cause the leaves to cup upward. Pre-emergent grass herbicides are unlikely to cause drift problems, but post-emergence herbicides may. Nonselective broad spectrum herbicides are formulated to kill all kinds of vegetation. Affected non-target plants may have yellow leaves, show dieback, and even death.

It is important not to jump to conclusions. There a many "herbicide look alikes" such as insect and mite damage, foliar diseases, adverse weather, soil compaction, leaf scorch, improper soil pH, inappropriate or misapplied fertilizers, genetic mutations, and de-icing salts. Proper diagnosis is important regardless of the reason. Know the symptoms produced by a particular herbicide, its mode of action, and dosage rates. Remember, regardless of the malady (i.e. insects, pathogens, chemical damage), any time a plant's leaves are damaged or lost, this greatly reduces the ability of the plant to make food (I like to think of it as "money"). Food produced from photosynthesis is how the plant pays its "bills". If the plant cannot pay its bills then it becomes more vulnerable to other lethal agents such as environmental factors, wood-boring insects and canker-causing pathogens. In addition, herbicide damage can result in loss of mast production for wildlife, contribute to soil erosion and runoff, reduce timber values, reduce recreational use, and be a factor in premature tree death defoliating insects and pathogens). Most healthy plants will recover from an isolated episode, however, more serious problems result from chronic exposure to herbicide drift.

Figure 4: Oak tatters
Photo by: Joseph Obrien

Continued on the next page -

If the plant damage turns out to be due to an herbicide, help the plant recover by providing proper irrigation during dry spells, mulch the root zone, prune out dead and dying plant parts, and protect it from other stressors (i.e. defoliating insects and pathogens). Most healthy plants will recover from an isolated episode, however, more serious problems result from chronic exposure to herbicide drift.

TAKING STEPS TO MINIMIZE HERBICIDE DAMAGE TO NON-TARGET PLANTS

While prevention is usually the best approach, sometimes stuff happens. In this segment, I would like to review some important points regarding pesticide application, with an emphasis on the growth regulator class of herbicides, and how they may affect non-target plants. Their propensity to volatilize and move off target (drift), damage symptoms associated with non-target plants, and better awareness on how to minimize plant damage. We still have plenty to learn about these new growth regulator products and please understand the intent of this article is not to point fingers at anyone. We are all in this together and will need to work together to increase our awareness, to be more responsible in how we use these products, understand their benefits and liabilities, and recognize the potential damage they can cause if we do not apply them properly.

Figure 5: Herbicide Damaged Eastern Redbud. Photo by: Eric Draper

Herbicides are based on the kinds of plants they kill, when they are applied, and their mode of action. Post emergent herbicides selectively kill broadleaf weeds and commonly include growth regulators with active ingredients containing 2,4-D, 2,4-DP, MCPA, MCPP, and dicamba. They are labeled for use around homes, farms, industry and are prone to drift and volatilization. Products containing 2,4-D have been around since the 1940s and have been used to control a variety of perennial weeds. However, the newer dicamba herbicides, while they may have lower volatility, may still volatilize particularly when applied under higher temperatures in May, June, and July, and can damage plants at very low rates. Many plant species are extremely sensitive to dicamba drift. For example, distinguishing between dicamba and 2,4-D damage may not be clear. In soybeans, it may take a higher amount of 2,4-D to really cause symptoms compared to dicamba. Fruit trees, ornamental trees and shrubs, vegetables, annual and perennial commercial flowering plants, and grapes can be injured by normal use rates of dicamba at 0.1, 0.01, or 0.001 the normal use rate. Non-target plant injury and symptoms caused by growth regulators include twisted and downward cupping of leaves and narrow strap-like leaves on the new growth. This is because dicamba's mode of action is to be translocated to the growing points of the plant affecting the youngest growth. Root uptake of these products can be even more damaging to plants, but is poorly understood.

Product formulation must be considered. Growth regulator products are formulated as amines or esters. Ester formulations typically have higher vapor pressures than amines which accounts for their greater volatility. Generally, amine salts are less volatile than esters. As the temperature increases, the vapor pressure increases leading to higher volatility. So, should I use esters or amines. Unfortunately, this is not a cut and dried question. Ester formulations are generally more active on weeds than amines, mainly due to the fact that esters are more soluble when they contact a plant's waxy surface, and are usually safer to use during the cooler spring months. As a result, plant leaves may absorb esters more quickly than amines. In warmer months, a shift to amines might be appropriate to reduce the potential for drift. Make sure to consult the label regarding temperature ranges for using the product.

As with any pest management program, attacking the organism (i.e. insect, pathogen, and weed) at its most vulnerable stage is critical in achieving effective control. Always read the label prior to and during application of any pesticide, consider the time of year, location of application, be aware of non-target plants adjoining the application site, be considerate of your neighbors, weed pressure, and application methods. In this way, we can minimize and/or avoid non-target plant damage and still get effective weed control.

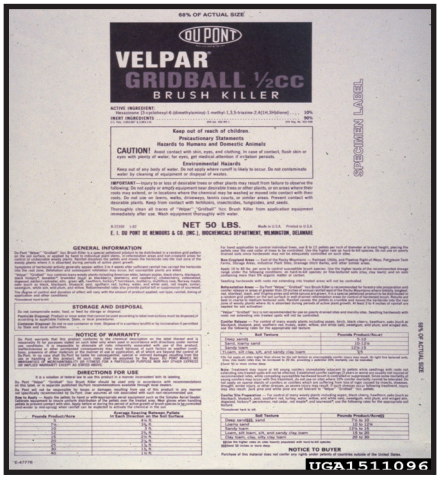

Figure 6: Example of a pesticide label, which should be carefully read. Photo by: USDA Forest Service

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RAPID WHITE OAK MORTALITY: WHAT IS IT AND WHY IS IT IMPORTANT?

Along with the herbicide drift issues, for the last number of years, there have been reports of oaks, particularly white oaks declining and dying in just a couple of growing seasons. While oak wilt is always a logical culprit, the pattern of symptoms, decline, death does not appear to be consistent with what we know about oak wilt and other common oak maladies.

Rapid white mortality (RWOM) was first observed in parts of Missouri since 2012. As it names implies, oak trees, particularly white oaks (Quercus alba) decline and die within a given growing season or two.

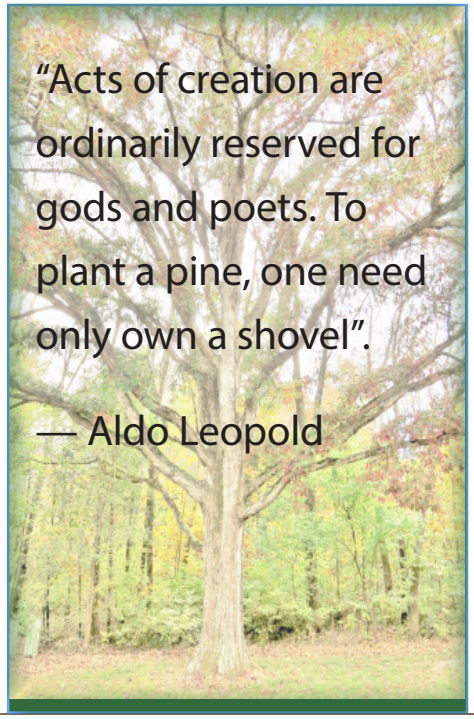
In Illinois, we are also seeing a similar pattern of oak mortality, but in different light. Oaks are rapidly dying in areas that were once native prairies much different from the Ozarks. Yes, Illinois trees also experienced the 2012 drought, but reports I have received and sites I have visited suggest other chronic factors may be involved. **In order to get a better picture of the problem in Illinois, we initiated an oak decline survey in early 2019 with the following preliminary results:**

- 100% of the dominant and co-dominant crown class was affected
- The vast majority of affected trees were over 10 inches dbh
- Percent of trees affected and crown dieback varied from 30-100% in a given area
- Major tree symptoms included wilted and attached leaves, leaf cupping, and upper branch dieback
- Distance to agricultural fields varied from 150 to 2,500 feet with corn and beans being the primary row crop
- Land ownership was predominantly private, land use was forest related and white oak was the major species affected
- Soil moisture varied from dry to wet

While our survey results are somewhat consistent with Missouri's findings, we still have a long way to go in understanding why our oaks continue to decline and die. We are still adding to our survey data base, so **if you have woodlands and/or oak trees rapidly dying, and would like to participate in the survey, please contact Fredric Miller, IDNR Forest Health Specialist (fmiller@jjc.edu) and I will be glad to send the survey to you.** Data from this survey will be used to help us further determine the extent of the problem, possible common threads responsible for oak mortality, and to provide best management practices (BMPs) for protecting our valuable oak resource.

As we continue through the 2019 growing season and beyond, be observant, knowledgeable of abiotic and biotic problems affecting your trees, and where possible, employ best management practices (BMPs) for protecting our valuable Illinois forest resources.

Please note: Information contained in this article was obtained and revised from previous articles by the author in the Natural Resource section of Prairie Farmer magazine.



The Distinguishing Characteristics Between White and Red Oaks.

White Oak Leaf *(Quercus alba)*
Photo by Paul Bolstad

Red Oak Leaf (Quercus rubra)
Photo by Paul Wray

White Oak Bark (Quercus alba)
Photo by Paul Wray

Red Oak Bark (Quercus rubra)
Photo by: Vern Wilkins

If You Build It They Will Come

Text and Photos by Jeremy Schumaker - Forester at Ozark Koala Ecosystem Services

Earlier this year Ozark Koala Ecosystem Services was contacted by a landowner who wanted to expand his small self-dug pool into a large vernal area for amphibians. Being a forestry company specializing in invasive species control we had to take a few days and really think about whether we could pull off a project like this. We spent a few days reading up on pond construction and reviewing equipment to use during construction. We chose late winter as a start time right after the frosts had finished, but heavy spring rains had not begun yet. Our goal was to finish in time for the rains to naturally fill the pool.

Figure 1: Vernal pool before construction

A scouting trip was taken approximately two weeks prior to construction to lay out the boundaries of the pool and to remove the majority of the rockscape prior to bringing in the heavy equipment. A low point was chosen at the midslope of a small hill leading to the original pool. As the original pool was already 18" deep we chose that as our deepest area and designed a layout which would simply reshape half of the original berm to the new back of the pool and be extended out with the earth that would be moved. A curved natural appearance was laid out and we were ready to dig. We took some soil cores to see if the soil beneath the area was suitable to hold water. Our new design was roughly 20x15' as opposed to the 3x4' original pool. We crossed our fingers and rented a Bobcat for the day. During construction we noticed a natural depression forming at the front of the pool and used it to create a second shallower depression in the pool. A PVC pipe was installed to allow water to flow out without breaching the top of the berm, which would allow for the top berm areas to be planted later. Mud, interesting interpretive dance of equipment direction, a warm bowl of chili, and a few hours later we had our area dug. Now it was a waiting game to see if our berm would hold the water.

Figure 2: Post construction, first rain events

Figure 3: The crew led by Jeremy Schumaker, Rob Stroh, and Mason Smith

A few days later the rains began, and the pool filled. We returned to view the pool to see if the berm needed any further work, but our main pool was holding. We decided to keep observing as our goal was 3 months of water retention in Spring and 3 months in the fall. If it held for that duration, we would have met the goal of amphibian habitat. A few weeks later we got an excited text with pictures of eggs and tadpoles. In only a few weeks the frogs had already began using the new wetland. Again, we waited, and the water continued to hold. We were hesitant to use a liner as we wanted bare soil for habitat reasons. Our patience was rewarded as the rest of the spring was text after text of new species observed at the site and new tadpoles emerging. 5 months later at least 6 species of frogs, raccoons, squirrels, birds, and deer have been observed using the new wetland. Our next step is to provide native landscaping to provide shelter, habitat, and beauty to this new oasis. We still get excited when we get updates about new observations at the pool and can't wait to see it full of plant and animal life in the near future! Its often said that the forester makes decisions by using either an axe or a shovel. We loved using our shovels for a day!

Figure 4: (below) Succesful establishment of a vernal pool

Biota of Illinois Identification

by Zach DeVillez

Cantharellus cibarius Yellow Chanterelles – These mushrooms are easily identified by their golden hue and their tendency to be in groups. The variety found in the Eastern United States can be roughly the size of a fist. The cap is fleshy with smooth wavy margins. The undersurface of the cap has shallow, widely spaced gills. These mushrooms are edible and popular in the kitchen. The taste is usually described as mild and buttery tasting. These mushrooms appear in waves throughout all of summer in the Eastern United States. If harvested correctly, chanterelles will pop up in the same location year after year. Care should be taken when identifying this species. The Jack O' Lantern mushroom is a look alike species that can be misidentified by novice mushroom hunters. The Jack O' Lantern mushroom is not suitable for human consumption and should not be eaten. If unsure, get some assistance from an expert or consult guidebooks and credible references for a proper identification.

Campsis radicans Trumpet Creeper Vine – This attractive vine is simple to identify. They generally flower through the months of July through September. The flower is trumpet shaped and is orange-red to yellowish in color. The flower is approximately 2.5 inches long. The leaves are pinnately compound with 7-11 toothed, pointed leaflets. These vines can be found in low woods, field edges, fencerows, and thickets. In the south this vine can grow aggressively, some considering it to be an obnoxious species. One benefit of trumpet creeper is that ruby throated hummingbirds are often attracted to their flowers, as well as other wildlife.

Cicuta maculate Water Hemlock – This woody stem plant is often mistaken for Poison Hemlock. Water hemlocks flower from June to September. These plants are highly branched and contain umbels of tiny white flowers. The flowers are approximately 1/8 inches long, while the umbels are 3 inches long. The leaves are long, doubly divided, sharp-pointed, and toothed. The entire plant is usually 3-6 feet tall. Water hemlocks are extremely poisonous. Even a small amount of this plant can cause death in humans or grazing livestock. Unlike poison hemlocks, water hemlocks are usually more isolated and are not found in dense groups.

Continued on the next page -

Lilium superbum Turk's-cap Lily – These beautiful lilies flower from July through September. They generally have a tall stem and bear several drooping, orange flowers with reddish-brown spots. Flowers are approximately 2.5 inches long with exposed stamens and dangling brown anthers. The leaves are 2-6 inches long and are arranged alternate or whorled. They can be found in wet meadows, swamps, and woodlands. Turk's-cap lily is considered rare to the Illinois wilderness, only occurring in a few counties in Southern Illinois. These lilies attract hummingbirds and large flying insects. Native Americans used to use their bulbs for soups.

Asclepias purpurascens Purple Milkweed – Purple Milkweed is a perennial herb that can grow to approximately 3 ft. tall. This species is easily identified by its deep red-purple flowers, which are 0.3-0.4 inches long. There are normally 1-3 umbels per plant with numerous small flowers. This species flowers from June through July. Purple milkweed has opposite leaf arrangement with simple 3-5 inch long leaves. Butterflies and hummingbirds are attracted to the vibrant colored flower of this species.

Teucrium candense American Germander – This perennial herb is in the mint family and stands at 12-36 ivhes tall. The flowers are pale rose purple, and 0.5-0.75 inches tall. The American germander flowers from June through August. The leaves of this plant are toothed lanceolate-ovate and are 2-5 inches long. American germander can be found in wet-moist soils, swamps, and moist soils throughout most of the United States. This species has been used medicinally since the ancient times to heal sores and ulcers on the skin.

We hope that you won't miss out on the IFA Annual Meeting this year!

We are excited to bring you a wide range of land management topics from professionals in the field!

Field Tours Planned

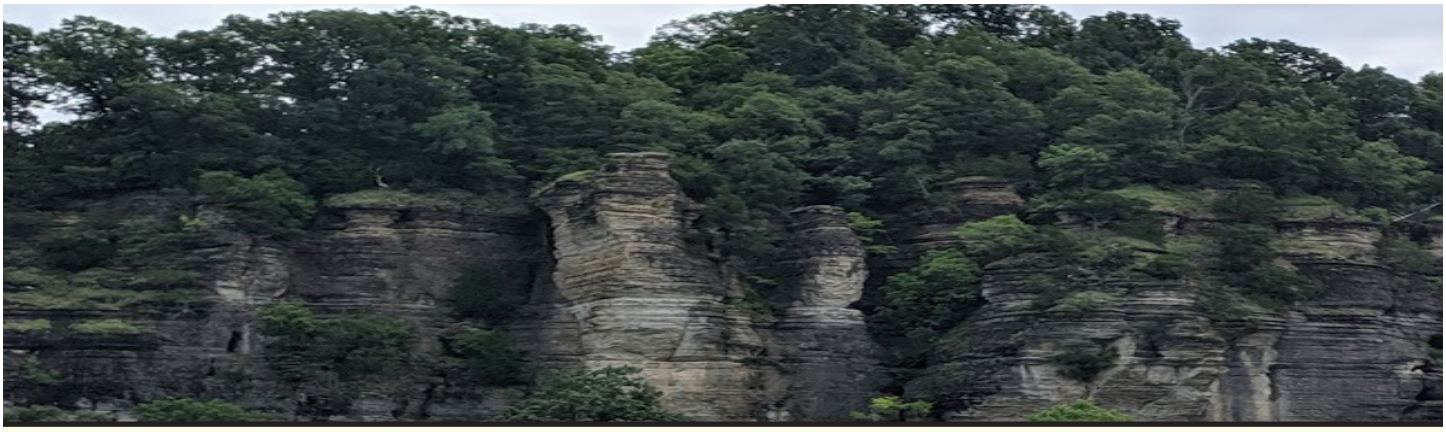
- Tour of Fire Management Sites
- Tour of Research at Principia College

Registration will open soon at -
http://ilforestry.org/Events

Will feature talks covering the following topics:

- Big River Bottomland Forest and Management
- Is my Forest Healthy?
- Climate Change and Land Management
- Oak Pests and Diseases
- Taxes and Timber
- Maple Syrup
- Forest Wildlife
- Getting your Timber to Market
- Protect your Land
- Funding Assistance and Resources
- How to Select Forestry Professionals
- Walnut Management
- Rarest Illinois Tree Species
- Agroforestry

Extras



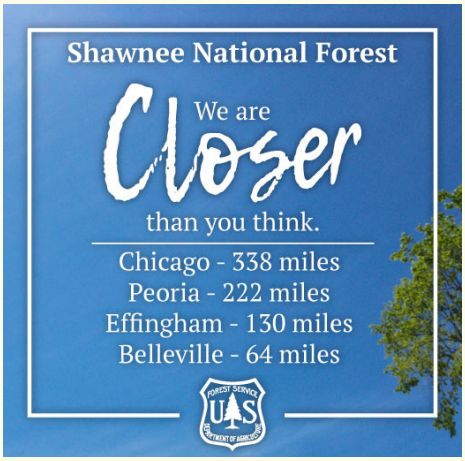
"The History of Conservation in Illinois"

(Installment # 28)
Contributed By: Dave Gillespie, Secretary

This account of the history of conservation in Illinois was written by Joseph P. Schavilje in 1941. This installment begins where installment # 27 ended.

T. J. Burrill and W. C. Flagg in 1878 made a list of plants of Illinois and the notes are many concerning trees. One interesting fact mentioned is the occurrence of American Chestnut (Castanea dentate) over a tract of some 80 acres at Olmsted, Pulaski County classed as native. It was from this grove that Mr. B. T. Gault of Glen Ellyn secured a photograph of a tree about four and one-half feet in diameter in 1900 and prepared a wood specimen from one of its branches about 3 ½ inches in diameter. The specimen, along with others was presented by Mr. Gault to the University of Illinois. (Miller, 1925) (Contributor's note – Some years ago I was the District Forester for Pulaski County. Someone in our state office asked me to see it I could find any evidence of the American Chestnut mentioned above. I spent most of day looking, but could not find any remnants of the grove in or around Olmsted. Dave Gillespie)

(To be continued in the next issue of "The IFA Newsletter".)



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Even without the specifics, it's easy to search for the Illinois Forestry Association as your preferred charitable organization. Just remember to enter "smile dot" before amazon dot com. At no cost to you, Amazon will donate 0.5% of eligible purchase totals to the IFA.

Every little bit helps.
Thanks for your support!

Give the Gift of IFA Membership

by Dave Gillespie, IFA Secretary

The IFA is now offering Gift Memberships. There is a form and a process in which we send the recipient a greeting card to welcome them and also let them know who is sponsoring their introductory basic membership. After their "free" year is up they can evaluate and renew on their own, assuming they find IFA membership rewarding.

Perhaps you have children or siblings who stand to inherit and/or share responsibility for managing land passed down in the family. An IFA membership can be a good way to build a mutual awareness and understanding of the forest, as well as introduce them to the programs and people here to serve.

A gift membership would also be a good way to thank a neighbor who has been especially helpful or who has shown an interest in managing their land like you do.

You can access the Gift Membership Form at the following link:

https://ilforestry.org:443/resources/Documents/Forms/IFA%20GIFT%20membership%20form.01-18-18.pdf

Short of purchasing a membership for someone else, it is also possible to download/share the IFA Brochure, which includes a regular application on page 3:

https://ilforestry.org:443/resources/Documents/Publications/Final%20IFA%20Brochure%20with%20Member%20App%20for%20on-line%20viewing.pdf

ILLINOIS TIMBER PRICES
SUMMER 2018

ILLLINOIS DEPARTMENT OF NATURAL RESOURCES - DIVISION OF FOREST RESOURCES
One Natural Resources Way Springfield, Illinois 62702
https://www.dnr.illinois.gov/conservation/Forestry/Pages/default.aspx

MAY 2018 THROUGH AUGUST 2018

This report is published by the IDNR, Division of Forest Resources in cooperation with timber buyers, mills, forestry consultants and foresters who participate in a semi-annual survey or report sale results. "Stumpage" is the price in the woods on the stump. "FOB" is the price for cut timber/logs delivered to a landing or mill. Ranges of prices paid show highest and lowest reported. The average price paid across Illinois, by species, is the best estimate of market value of timber during the period. Actual prices buyers pay are subject to US and global market and economic conditions combined with local factors such as markets, transportation costs, site conditions, timber accessibility, topography and terrain, distance to markets, tree size and quality, size of sale and other factors. We advise landowners to contact their District Forester's office directly or the forestry division office in Springfield before selling timber.

Illinois timber prices from 1978 to current can be found at:
http://web.extension.illinois.edu/forestry/illinois_timber_prices.cfm SPECIES/PRODUCT

SPECIES/PRODUCT STUMPAGE	lowest price paid		highest price paid		AVERAGE PRICE
STANDING TIMBER (stumpage)	statewide		statewide		$/MBF Statewide
Ash Stumpage	100		400	$	220.00
Basswood Stumpage	100		150	$	130.00
Beech Stumpage	50		150	$	120.00
Cottonwood Stumpage	50		150	$	110.00
Sweet Gum Stumpage	50		160	$	140.00
Elm and Hackberry Stumpage	50		200	$	130.00
Hickory Stumpage	100		400	$	190.00
Cherry Stumpage	160		600	$	330.00
Soft Maple Stumpage	50		300	$	160.00
Sugar Maple Stumpage	150		350	$	240.00
Black Oak Stumpage	160		310	$	230.00
Pin Oak Stumpage	100		200	$	160.00
Red Oak Stumpage	160		400	$	310.00
White Oak Stumpage	160		900	$	490.00
Yellow Poplar Stumpage	100		350	$	230.00
Sycamore Stumpage	100		200	$	130.00
Black Walnut Stumpage	500		2000	$	1,150.00
Woods Run Bottomland Stumpage	150		300	$	240.00
Woods Run Upland Stumpage	220		750	$	410.00
Red Oak Veneer Stumpage	500		600	$	550.00
White Oak Veneer Stumpage	1000		1500	$	1,190.00
Black Walnut Veneer Stumpage	1000		5000	$	2,770.00
Cherry Veneer Stumpage	500		1500	$	930.00

SPECIES/PRODUCT	lowest price paid statewide	highest price paid statewide		AVERAGE PRICE PAID AT MILL
CUT LOGS DILIVERED (FOB)				MBF/ Statewide
Ash FOB Mill	250	680	$	410.00
Basswood FOB Mill	250	400	$	330.00
Beech FOB Mill	250	325	$	290.00
Cottonwodd FOB Mill	150	300	$	240.00
Sweetgum FOB Mill	280	300	$	290.00
Elm and Hackberry FOB Mill	100	325	$	230.00
Hickory FOB Mill	250	450	$	340.00
Cherry FOB Mill	400	1000	$	590.00
Soft Maple FOB Mill	250	450	$	400.00
Sugar Maple FOB Mill	350	725	$	470.00
Black Oak FOB Mill	400	620	$	460.00
Pin Oak FOB Mill	250	400	$	330.00
Red Oak FOB Mill	400	700	$	500.00
White Oak FOB Mill	400	1100	$	730.00
Yellow Poplar FOB Mill	350	460	$	400.00
Sycamore FOB Mill	260	400	$	310.00
Black Walnut FOB Mill	1000	2700	$	1,870.00
Woods Run Bottomland FOB Mill	300	480	$	390.00
Woods Run Upland FOB Mill	420	1200	$	720.00
Red Oak Veneer FOB Mill	1200	1200	$	1,200.00
White Oak Veneer FOB Mill	1500	3200	$	2,240.00
Black Walnut Veneer FOB Mill	3000	6500	$	4,900.00
Cherry Veneer FOB Mill	800	1700	$	1,250.00

APPRAISING YOUR TIMBER:
Timber is worth the most someone is willing to pay for it.
Timber buyers, mills and foresters can accurately measure and assess cut timber or stumpage.
Professional consulting foresters are available for a variety of timber measures and appraisals.
Licensed timber buyers can make like offers to appraise timber value.

MILL OPERATIONS:
MBF = 1,000 Board Feet; measured in Doyle Scale
Custom Mill Sawing Rate averages $250 per 1,000 Board Feet
Portable sawmills are sawyers are available for hire.

SAWMILL DIRECTORY:
https://www.dnr.illinois.gov/conservation/Forestry/Documents/IllinoisSawmillDirectory

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